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An Essay on

Haemoptysis

For the degree of M. D.

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Haemoptysis

By this term we mean a discharge of blood either from the lungs trachea or fauces. To be enabled to adopt a proper course of treatment it is necessary that we should be acquainted with the causes and diagnostics of the disease. In a majority of cases where the blood comes from the fauces, we can by inspection discover its real source and it is thrown up by mere hawking without cough, pain, oppression or febrile excitement. The same nearly may be said of haemorrhagy from the trachea. It does not occur so frequently as the former, but when it does take place it is always attended with great danger. We distinguish haemoptysis from haematemesis, by the latter being always attended by vomiting. The blood is uniformly mixed with other substances that were in the stomach and is thicker and blacker than that which comes from the lungs. Again the system sinks much sooner from copious haematemesis than from haemoptysis. Haemorrhagy from the lungs is always accompanied by coughing: the blood is frothy and of a florid red colour. The causes that give origin to other haemorrhages do, in a greater or less degree give rise to haemoptysis.

but there are some that act specially in conducing to the excitement of this disease, such as a narrow contracted thorax, long neck, elevated shoulders, delicate habit, and sanguineous temperament. This predisposition is excited into action by a variety of circumstances; the more prominent of which are, loud and long speaking, frequent singing, bursts of laughter, violent paroxysms of anger, excessive exercise, vicissitudes of weather, intemperance, and the suppression of some accustomed evacuation. There are several species of haemoptysis attended with different degrees of danger. First, the accidental rupture of a vessel, from a fall or blow. Here the danger is trifling if the vessel be small and there be no previous disease of the lungs. Again it may arise from excessive inflammation of the lungs, as acute pneumonia. This is not often dangerous. Haemoptysis arises from the translation of a disease from some other part to the lungs, as in the suppression of the catamenial or haemorrhoidal fluxes. This is not a very serious circumstance, provided there be no uncommon susceptibility to pectoral diseases. Haemoptysis is sometimes the consequence of plethora or vast accumulations of blood in the lungs

occasioning periodical discharges. These cases are not always irremediable tho' they very often terminate in consumption. Haemoptysis sometimes arises from abscesses or ulcerations of the lungs following illcured pneumonia. The discharge is mixed with phlegm or purulent matter. Tho' these cases are generally to be considered desperate and almost hopeless, we are not on this account to give them up. Nature assisted by art is sometimes enabled to overcome great difficulties, and effect cures where they are least to be expected. Another species of haemoptysis arises from tubercles of the lungs, and tho' the haemorrhagy in itself is trifling, yet being connected with a scrofulous condition of these organs it often resists our best endeavours and terminates in pulmonary consumption. That species of haemoptysis which will constitute the subject of my future consideration is, the active or febrile, which is ushered in by a sensation of weight and oppression at the chest, heat under the sternum a dry hard cough, short and difficult respiration a full irregular pulse, a turnid flushed countenance and very often before the rupture takes place a

saltish taste is perceived in the mouth. Occasionally the case puts on stronger marks of febrile action being attended by chills, pains in the back and loins, flatulency, constipation lassitude and debility. "Immediately before the appearance of the blood, a degree of irritation is felt at the top of larynx. To relieve this a hawking is made which brings up a little blood of a florid colour, and somewhat frothy. The irritation returns, and in like manner more blood of the same kind is brought up, with some noise in the windpipe as of air passing through a fluid." Haemoptysis very often takes place during the night while the patient is asleep and free from all mental or corporeal agitation. This has never been satisfactorily accounted for. The phenomenon may I conceive be readily accounted for from the following considerations. When a person is in a natural sleep all parts of the body except the lungs are at rest. The contractions and relaxations of the muscles seem in a great degree necessary for carrying on an active circulation, these being absent it is very presumable that a languid circulation will follow. The

paleness of a person asleep very plainly proves that the blood is confined more to the large vessels then, than during the day when he is awake. The brain is another source from which I derive assistance in endeavouring to explain this phenomenon. I have no doubt that during sleep the vessels of the brain are considerably emptied, and that this condition is absolutely necessary for sleep to take place. Nothing more is wanting to account for the difficulty of falling asleep when there is unnatural determination of blood to the head. The delirium in low fevers which very much resembles sleep is accounted for in this way. It also affords an easy explanation of the Modus Operandi of opium in these cases. All these circumstances taken into consideration together with the absence of the senses warrant the conclusion that the lungs in their predisposed or perhaps already diseased condition become a centre of fluxion. The superabundance of blood which is derived from its deficit in almost every other part of the body is directed with peculiar force to the lungs from their continual

action their diseased condition and posture of the body. Thus giving rise to immense accumulations of blood in those organs, which causes so much uneasiness and difficulty of respiration, that the patient awakes, jumps up in bed affrighted with the apprehension of suffocation. By this exertion the blood is aroused from its inactivity and in its endeavour to recede from its encroachments or from pressure caused by the strong and hurried inspirations which the patient is certain to make, the already distended and weakened vessels give way followed by all those phenomena which have already been described.

Treatment

The most obvious indication in the treatment of this is, to put a stop to the haemorrhagy. For this purpose venesection is the best remedy. The propriety of venesection in haemoptysis has been denied by a very celebrated practitioner of London. DR Heberden. His arguments tho' plausible and ingenious are by no means satisfactory. In fact the efficacy of the practice is sufficient refutation to his

objections. To derive full advantage from it however we should apply it boldly. The small and repeated bleedings recommended by some writers are, idle and even mischievous. They debilitate without giving the smallest respite to the sufferer. It is proper in all profuse haemorrhages to draw blood copiously from a large orifice untill we give relief. The lungs in these cases are very apt to take on inflammation and it is our duty to prevent it by a proper use of the lancet. It is a common and very good practice to give table salt at this stage of the disease, in doses of a table spoonfull. The mode of operation is not certainly known. It is by some believed that the action which it excites in and about the fauces, is, by continuous sympathy extended down the trachea and by its styptic operation astringes the mouths of the bleeding vessels. I think it more probable that it acts as a counter irritant diverting the blood from the lungs by its distant irritation. With the view of suppressing the haemorrhagy cold applications have been made to different parts of the body but more particularly to the thorax and axilla. No part of the body is more susceptible to the impression of cold than the axilla

Cloths wetted with cold water or vinegar, or ice enclosed in a bladder should be applied to axilla. These are important remedies in the onset of the disease and should not be overlooked. By some practitioners wrapping up the body in wet cloths has been recommended. This is an intrepid practice and should not be resorted to untill milder measures have been ineffectually tried. This was the favourite practice of the late Dr Bond. The Saccharum Saturni has been justly praised in the treatment of this disease. It was first used by some of the older writers of the continent, but was for a long time laid aside on account of the denunciation of Sir G Baker. It fell to the lot of the late Dr Barton to dissipate those false and idle objections to its use and establish it as a safe and efficacious remedy in the treatment of haemoptysis. As is generally the case with new remedies, it has been too indiscriminately employed without regard to the condition of the pulse. It is now an established rule never to resort to it until arterial action has been sufficiently reduced. We must bleed as long as there is preternatural excitement in the blood vessels and then throw in the lead.

It is generally given in too small doses it may with safety and advantage be increased. Alum is an important remedy, but belongs exclusively to the reduced and protracted cases, with the view of keeping down arterial action and preventing the recurrence of the haemorhagy. Digitalis is an old and favourite but has no doubt been abused by its too general employment. The minds of practitioners seem now to be made up as to the propriety of withholding its employment until vascular action has been sufficiently reduced by previous venesection. As a substitute for the lancet where there exists much arterial action it should never be trusted. Even after we have reduced action by direct depletion it proves much inferior to many other articles. In the usual mode of administration, a long time elapses before the pulse is at all affected, and if we give it in larger doses it is apt to induce vomiting, which is an equivocal and sometimes very pernicious remedy. Digitalis is not appropriate in the more febrile shapes of the disease, but there are some forms of it in which it display unequivocal marks of utility. The cases to which the article is suited are

marked by a slight oozing of blood, a hacking cough, pain in the side and breast, with a quick and sometimes active pulse with great mobility and weakness of the system. To bleed in these cases would be hazardous in the extreme and it is here that we should substitute digitalis for the lancet. Exhibited here so as to keep the pulse down to its natural standard, it displays certain and important effects. Emetics were introduced in the treatment of this disease, sixty or seventy years ago, by Brian Robinson of Dublin, and tho' highly recommended by him they have been for a long time laid aside on account of the unfavourable reports of Dr. Cullen. Emetics however, are sometimes useful in arresting haemorrhagy from the lungs. Spontaneous vomiting has often effected it, and may we not sometimes effect the same thing by artificially inducing that operation? Instances are not wanting to justify the expectation. Dr. Chapman declares that in the most alarming case he ever saw, the discharge was entirely arrested by the exhibition of a dose of digitalis which pulsed violently. Although

eminently usefull in some desperate cases, yet the emetic practice is exceedingly dangerous and should not be resorted to until all other milder measures have failed, and more especially if a large vessel has been ruptured. But should there be only a slight raising of blood arising from tubercles or anastomosis the remedy is perfectly safe and sometimes preeminently usefull. It diffuses the blood equally over the body, removes cutaneous constriction, calms the disturbed state of the system, and lessens the anxiety, cough, sanguineous expectoration, and difficulty of respiration. The emetic tartar is perhapse the best article for the purpose, but more particularly as a nauseant in the febrile cases. The vitriolic solution has been highly recommended by Mosely and Barton. This medicine has not been extensively enough employed to decide upon its comparative merits. Ipecacuanha is a remedy of far less doubtfull character; it has been used in numerous and diversified cases, and always with beneficial results.

It should be administered so as to keep up a slight degree of nausea, for the space of from 12 to 36 hours. The best mode of giving it is to combine it with small quantities of opium and give it at such intervals that each dose may keep up the effect of the previous one. The whole of the neutral salts are useful in febrile haemoptysis. the nitras potassae is particularly so. No medicine is more employed in fevers of an inflammatory than this. It is peculiarly well suited to the case under consideration. It proves beneficial not in arresting the haemorrhagy by its astringency: but by its powers in reducing vascular action. It is one of the best auxiliares to venesection. Nitras Potassae is sometimes given alone, but its efficacy is vastly improved by combining it with the antimonials. When we wish its diuretic effect we should accompany it with large quantities of diluent drinks. The mineral acids are given with the same intention as the preceeding article. They are considered more astringent and hence are resorted to much earlier in the disease.

The sulphuric is prefered is prefered in those cases where the bleeding has not been suppressed. To the list of remedies in the treatment of this disease, the narcotics have been added but the only one that seems entitled to confidence is opium, or rather, it can be made to answer all the indications that the others are capable of fulfilling. Narcotics were first employed in this disease by the Germans, and were afterwards introduced into England. They were prescribed with the view of calming irritation and by their supposed sedative effect to reduce arterial action. The narcotics are applicable only to those cases where there is great irritation and intolerable cough, which keeps up the haemorrhagy. After we have stopped the flow of blood by these remedies, the neutral salts come in very well. Haemoptysis is frequently protracted and dependant on irritation existing in the lungs. Here we must appeal to the vesicating applications. There is however, great diversity of opinion as to the proper place of application. Some ascribe infinitely more advantage to them

when applied to the extremities. Others prefer them to the back of the neck. But we should here as in all other cases unless we wish them to act by revulsion apply them immediately over the seat of the disease. In fact the efficacy of blisters is always proportionate to their proximity to the seat of the disease. Tho' the operation of blisters in this disease is not very striking, yet we cannot dispense with them. It often happens that cases of this after resisting our best remedies, suddenly yields to the application of a blister. This is the course that has generally been pursued in the management of this disease: but that it should have full effect it is necessary that we should attend to other circumstances. As soon as we are called to a case we should direct the patient to be put to bed with his shoulder and head elevated and his extremities extended. He should never be permitted to double himself up in bed. This posture acts very powerfully in recexciting the haemorrhage. His chamber is to be kept cool by free ventilation. Company must be entirely excluded; and the

patient be directed to talk as little as possible.
During the progress of the disease the diet should consist of small quantities of demulcent drinks agreeably acidulated. The patient must not on any account be permitted to load his stomach with either fluid or solid food. The bowels must be kept soluble by the refrigerating purgatives.
Haemoptysis sometimes instead of being marked by fever and high arterial action, is quite the contrary, or as it has been called, passive. These cases are generally connected with a scrofulous condition of the lungs. Whether this be the original condition or not, it is equally proper to proscribe all depletory measures. Our object here is to keep up the tone of the system; and for this purpose we resort to the different tonics.
Of these the peruvian bark is to be prefered.
It was a favourite remedy of Dr Rush. It is commonly given alone; but its power is very much increased by combining with it the preparations of iron; and particularly the muriated tincture.
Alum and the acetate of lead were favourite remedies of Dr Cullen in this form of

the disease, but they are certainly inferior to the mineral acids. The acids are much better suited to the feeble than active forms of haemoptysis. Haemoptysis sometimes attends pulmonary consumption, and of all the remedies here, the nitric acid is to be preferred. These remedies should be accompanied with gentle exercise, a nourishing diet, and such drinks as strengthen without heating the system. Malt liquors are preferred and of these old porter is the best. This is the course generally tho' not always successfully pursued in managing this disease. We sometimes fail entirely, either, from some peculiarity in the attack or constitution of the patient. The disease is often reexcited from exposure to the slightest causes, and to guard against it with any prospect of success we must inculcate the necessity of observing a regular and abstemious mode of living, avoiding every exciting cause, and particularly catarrh, than which nothing is so apt to induce a return of the disease. Where the predisposition is very strong the condition of the pulse and lungs are particularly to be attended to

Any unusual activity in the blood vessels, or pain or oppression about the chest are symptoms demanding our immediate attention. We should direct small bleedings and a low diet, with an occasional laxative, and where not absolutely objected to a perpetual blister; which is sometimes of more benefit than every thing else in obstinate cases. The alterative use of mercury should not be overlooked. When connected with a tubercular condition of the lungs emetics are exceedingly usefull as preventives of the haemorrhagy. Cases of haemoptysis do sometimes occur where the lungs are so very much diseased, that our best plans of treatment prove altogether ineffectual. Here as a last resource we should advise the patient to make a voyage by sea to some warmer climate. Cases of recovery from it are sufficiently numerous and well authenticated to justify us in the measure.